



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,620	01/30/2006	Matthias Winkel	ZAHFRIP815US	7373

20210 7590 06/16/2010
DAVIS & BUJOLD, P.L.L.C.
112 PLEASANT STREET
CONCORD, NH 03301

EXAMINER

LE, DAVID D

ART UNIT	PAPER NUMBER
----------	--------------

3655

MAIL DATE	DELIVERY MODE
-----------	---------------

06/16/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,620	Applicant(s) WINKEL ET AL.	
	Examiner DAVID D. LE	Art Unit 3655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-32 and 34-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-32 and 34-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3655

DETAILED ACTION

1. This is the sixth Office action on the merits of Application No. 10/566,620, filed on 30 January 2006. Claims 23-32 and 34-36 are pending.

Documents

2. The following documents have been received and filed as part of the patent application:
- Copy of Foreign Priority Document, received on 01/30/06
 - Information Disclosure Statement, received on 01/30/06

Claim Objections

3. Claims 23, 31, 34 and 36 are objected to because of the following informalities:
- Claims 23, 34 and 36 recite the limitation “a coasting mode”. The specification is failing to provide proper antecedent basis for the claimed “a coasting mode”. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).
 - Claim 31, lines 3-4, “with a disengaged clutch” should be --with the clutch disengaged--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 23-32 and 34-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23:

- Lines 8-9 recite the limitation “a predetermined threshold speed determined by a current transmission gear ratio”. It is unclear whether the claimed "a current transmission gear ratio" is different from the transmission ratio resulting from the first downshifting operation.
- Lines 10-12 recite the limitation “terminating the first downshifting operation without engagement of the clutch, located between the vehicle drive motor and the transmission, if the speed of the vehicle is below the predetermined threshold speed”. It is unclear how the method step can be carried out since the clutch has already been disengaged in the step of carrying out the first downshifting operation. It seems that the claimed limitation appears to be incomplete or omitting essential steps, such omission amounting to a gap between the steps. Furthermore, the predetermined threshold speed appears to contradict the ordinary definition of the term “coasting”, as recited on line 4 of the claim, since the predetermined threshold speed also includes the speed of zero or stationary condition. For the purpose of applying the art rejection, examiner interprets the term “coasting mode” to include the speed of zero or a stationary condition.

Claim 24:

As previously mentioned in the last Office action, dated 01/05/2010, the method step, as recited in claim 24, appears to be in conflict with the method step b1 of claim 23, which requires the clutch to be engaged.

Claim 34:

- Lines 13-14 recite the limitation “a predetermined threshold speed determined by a current transmission gear ratio”. It is unclear whether the claimed "a current transmission gear ratio" is different from the transmission ratio of the lower gear.
- Lines 16-18 recite the limitation “terminating the first downshifting operation without engagement of the clutch, located between the vehicle drive motor and the transmission, if the speed of the vehicle is below the predetermined threshold speed”. It is unclear how the method step can be carried out since the clutch has already been disengaged in the step of carrying out the first downshifting operation. It seems that the claimed limitation appears to be incomplete or omitting essential steps, such omission amounting to a gap between the steps. Furthermore, the predetermined threshold speed appears to contradict the ordinary definition of the term “coasting”, as recited on line 4 of the claim, since the predetermined threshold speed also includes the speed of zero or stationary condition. For the purpose of applying the art rejection, examiner interprets the term “coasting mode” to include the speed of zero or a stationary condition.

Art Unit: 3655

- Lines 27-29 recite the limitation “terminating the second downshifting operation without engagement of the clutch, located between the vehicle drive motor and the transmission, if the speed of the vehicle is below the predetermined threshold speed”. It is unclear how the method step can be carried out since the clutch has already been disengaged in the step of carrying out the second downshifting operation. It seems that the claimed limitation appears to be incomplete or omitting essential steps, such omission amounting to a gap between the steps.

Claim 36:

- Lines 11-12 recite the limitation “a predetermined threshold speed determined by a current transmission gear ratio”. It is unclear whether the claimed "a current transmission gear ratio" is different from the transmission ratio of the next lower gear. Furthermore, the predetermined threshold speed appears to contradict the ordinary definition of the term “coasting”, as recited on line 3 of the claim, since the predetermined threshold speed also includes the speed of zero or stationary condition. For the purpose of applying the art rejection, examiner interprets the term “coasting mode” to include the speed of zero or a stationary condition.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3655

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 23-32 and 34-36, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,231,474 to Hawarden et al. (hereinafter referred to as Hawarden) in view of U. S. Patent Application Publication No. US 2004/0106495 A1 to Abusamra et al. (hereinafter referred to as Abusamra).

Claims 23-32 and 34-36:

Hawarden (Figs. 1-3B; column 1, line 60 – column 4, line 67) discloses an automated transmission downshift control comprising the steps of:

- Carrying out a first downshifting operation during a coasting mode (i.e., column 4, lines 35-37) of the automatic transmission (i.e., Fig. 1, element 14) from a higher gear to a lower gear (i.e., column 3, line 4 – column 4, line 67);
- Disengaging a clutch (i.e., Fig. 1, element 16) located between the automatic transmission and a vehicle engine (i.e., Fig. 1, element 12);
- Terminating the first downshifting operation by engaging the clutch located between the automatic transmission and the vehicle engine so that engine compression influences the vehicle (i.e., column 3, line 4 – column 4, line 67);
- If the vehicle falls below a threshold speed, carrying out a second downshifting operation of the automatic transmission by disengaging the clutch located between the automatic transmission and the vehicle engine (i.e., column 3, line 4 – column 4, line 67);

Art Unit: 3655

- Downshifting from the lower gear to a first next lower gear in the automatic transmission and subsequently downshifting from the first next lower gear to a second next lower gear while maintaining the clutch, located between the automatic transmission and the vehicle engine, disengaged during the second downshifting operation (i.e., column 3, line 4 – column 4, line 67);
- Determining a driver desire for positive drive torque (i.e., column 3, line 4 – column 4, line 67);
- Terminating the second downshifting operation by engaging the clutch (i.e., column 3, line 4 – column 4, line 67);
- Preventing the second downshifting operation if operational brakes are activated (i.e., column 3, line 4 – column 4, line 67);
- Wherein the step of determining the driver desire for positive torque by identifying at least one of:
 - Releasing operative brakes;
 - Deflecting an activation lever for a direction of travel;
 - A predetermined steering angle of a vehicle steering mechanism; and
 - Activating of a power control member (i.e., column 3, line 4 – column 4, line 67).

Hawarden, however, does not explicitly state that the first downshifting operation is carrying out during a coasting mode while the clutch is disengaged and without any engine braking.

Abusamra (Figs. 1-2; paragraphs [0008] - [0029]), on the other hand, teaches a vehicle driveline control comprising:

- An engine (i.e., Fig. 1, element 22);
- A transmission (i.e., Fig. 1, element 24);
- A clutch (i.e., Fig. 1, element 26);
- Wherein the clutch is located between the engine and the transmission (i.e., Fig. 1);
- A controller (i.e., Fig. 1, element 32); and
- Wherein the controller carries out gear shifting operations while the clutch is disengaged and without any engine braking (i.e., paragraphs [0021] – [0027]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hawarden to include the downshifting operation being carrying out during coasting mode while the clutch is disengaged and without any engine braking, in view of Abusamra, in order to effectively simplify the task of shifting the transmission during coasting mode, when the effectiveness of vehicle retardation is not necessary. Furthermore, since all the claimed elements were known in the prior art, one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Response to Arguments

8. Applicant's arguments with respect to claims 23-32 and 34-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID D. LE whose telephone number is (571)272-7092. The examiner can normally be reached on Mon-Fri (0900-1730).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3655

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David D. Le/
Primary Examiner, Art Unit 3655
06/09/2010

ddl